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(54) **ROMAN UMBRELLA WITH ADJUSTABLE OPENING/CLOSING ANGLE THROUGH ROCKER HANDLE**

(57) The present utility model discloses a Roman umbrella with an adjustable opening/closing angle through a rocker handle, including an umbrella column and an umbrella disk assembly, wherein the umbrella disk assembly includes an upper umbrella disk and a lower umbrella disk, the umbrella column is sleeved with a sliding block, the upper umbrella disk is provided with a connecting rod and a pull rod, the end of the connecting rod is hinged on the sliding block, one end of the pull rod is hinged on the top of the umbrella column, the other end of the pull rod is hinged on the connecting rod, the umbrella column is provided with an umbrella opening assembly, the umbrella opening assembly includes an

opening/closing rocker handle and a cord arranged in the inner cavity of the umbrella column, one end of the cord is fixedly connected to the opening/closing rocker handle, the other end of the cord extends to the upper end of the umbrella column, passes through the pull rod and the connecting rod in sequence, and is connected to the lower umbrella disk, and the cord is driven by the opening/closing rocker handle. The Roman umbrella has a simple structure, the cord is connected to the opening/closing rocker handle, and the opening/closing rocker handle does not move up with the opening of the canopy. The requirement for the height of a person who opens the umbrella is lowered, and the practicality is improved.

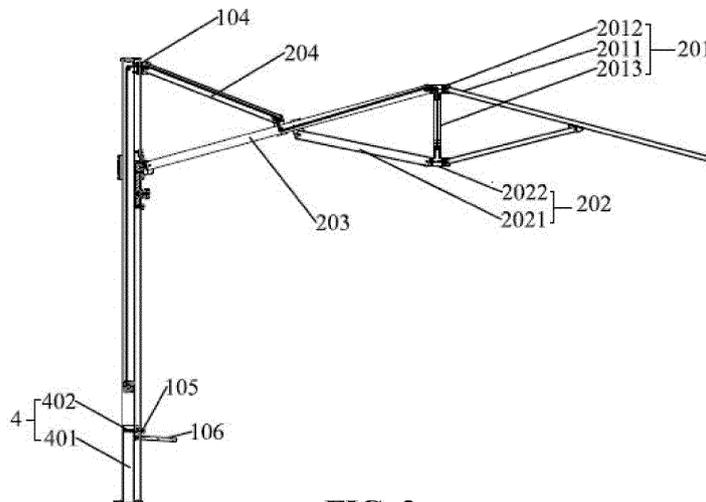


FIG. 2

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Description

Technical Field

[0001] The present utility model belongs to the technical field of outdoor umbrellas, and in particular relates to a Roman umbrella with an adjustable opening/closing angle through a rocker handle.

Background

[0002] Outdoor umbrellas are large umbrellas used in outdoor courtyards for sunshade or rain protection. According to the shape, outdoor umbrellas can be classified into side column umbrellas, Roman umbrellas, and banana umbrellas. The umbrella bodies are in a round or square shape. With continuous promotion of the minimalist lifestyle and development of the commercial leisure industry, outdoor umbrellas, which have beautiful shapes and effective sun protection and shading effects, have been widely used in our lives.

[0003] Roman umbrellas are a kind of outdoor umbrellas. When the conventional Roman umbrellas are used, it is necessary to move a handle shell up and down to open or close the canopy. Because Roman umbrellas are large, a certain amount of strength is required to move the handle shell. For people with insufficient strength, the umbrella is difficult to open.

Summary of the Utility Model

[0004] To make up for the deficiencies of the prior art, the present utility model provides a technical solution of a Roman umbrella with an adjustable opening/closing angle through a rocker handle, and the Roman umbrella can be stably opened and closed through the rocker handle.

[0005] The Roman umbrella with an adjustable opening/closing angle through a rocker handle includes an umbrella column and an umbrella disk assembly, wherein the umbrella disk assembly includes an upper umbrella disk and a lower umbrella disk, the umbrella column is sleeved with a sliding block, the upper umbrella disk is provided with a connecting rod and a pull rod, the end of the connecting rod is hinged on the sliding block, one end of the pull rod is hinged on the top of the umbrella column, the other end of the pull rod is hinged on the connecting rod, the umbrella column is provided with an umbrella opening assembly, the umbrella opening assembly includes an opening/closing rocker handle and a cord arranged in the inner cavity of the umbrella column, one end of the cord is fixedly connected to the opening/closing rocker handle, the other end of the cord extends to the upper end of the umbrella column, passes through the pull rod and the connecting rod in sequence, and is connected to the lower umbrella disk, and the cord is driven by the opening/closing rocker handle.

[0006] Further, the lower umbrella disk includes a short

rib and a runner, the upper umbrella disk includes a long rib and a notch, the connecting rod and the long rib are respectively hinged on the notch, one end of the short rib is hinged on the long rib, and the other end of the short rib is hinged on the runner.

[0007] Further, the lower end of the notch is provided with an upper section, the top of the runner is provided with a connecting end, and the upper section is snap-fitted with the connecting end when the umbrella is opened.

[0008] Further, the umbrella column, the pull rod, the connecting rod, and the notch are respectively provided with a guide wheel, the guide wheels are arranged at the connections of the umbrella column, the pull rod, the connecting rod, and the notch, transmission connection of the cord is achieved through the guide wheels, and the end of the cord is fixedly connected with the connecting end.

[0009] Further, the inner cavity of the sliding block is provided with pulleys, the pulleys are arranged on both sides of the umbrella column, the outer side of the sliding block is provided with a locking handle, and the locking handle is screwed on the sliding block.

[0010] Further, a fixing block is arranged on the upper side wall of the umbrella column, and the pull rod is hinged on the fixing block.

[0011] Further, a rotating base is arranged at the bottom of the umbrella column, the rotating base is sleeved with the umbrella column, the rotating base includes a rotary tray at the bottom and a fixing tube, snap-fit holes are uniformly distributed in an annular form on the outer wall of the fixing tube, the umbrella column is provided with a pin, and the pin fits the snap-fit holes to achieve rotation of the Roman umbrella canopy.

[0012] Further, a rotating handle is also arranged on the umbrella column, and the umbrella column is rotated by pulling the rotating handle to rotate the Roman umbrella canopy.

[0013] Further, a snap ring is arranged at the top of the pin, a spring is arranged on the pin, and the position of the spring is limited between the snap ring and the inner wall of the umbrella column.

[0014] Further, a tube plug is arranged at the end of the long rib.

[0015] The present utility model has the following advantages compared with the prior art:

the umbrella is opened by the rocker handle, the canopy can be tilted by rotating, sliding, and fixing the sliding block, and the canopy can be rotated 360 degrees by positioning the pin at the lower end of the column. By the rocker handle, the umbrella is opened more easily. In addition, the Roman umbrella has a simple structure, the cord is connected to the opening/closing rocker handle, and the opening/closing rocker handle does not move up with the opening of the canopy. The requirement for the height of a person who opens the umbrella is lowered, and the practicality is improved.

Brief Description of Drawings

[0016]

FIG. 1 is a structural schematic diagram of the umbrella of the present utility model in a closed state; FIG. 2 is a sectional view 1 of the umbrella of the utility model in an open state; FIG. 3 is a sectional view 2 of the umbrella of the utility model in an open state; and FIG. 4 is a schematic diagram of a pin connection structure.

Detailed Description

[0017] The present utility model will be further described below in conjunction with the accompanying drawings.

[0018] As shown in FIGs. 1-4, a Roman umbrella with an adjustable opening/closing angle through a rocker handle includes an umbrella column 1 and an umbrella disk assembly 2, wherein the umbrella disk assembly 2 includes an upper umbrella disk 201 and a lower umbrella disk 202, the umbrella column 1 is sleeved with a sliding block 101, the upper umbrella disk 201 is provided with a connecting rod 203 and a pull rod 204, the end of the connecting rod 203 is hinged on the sliding block 101, one end of the pull rod 204 is hinged on the top of the umbrella column 1, and the other end of the pull rod is hinged on the connecting rod 203. A fixing block 104 is arranged on the upper side wall of the umbrella column 1, and the pull rod 204 is hinged on the fixing block 104. The umbrella column 1 is provided with an umbrella opening assembly 3, the umbrella opening assembly 3 includes an opening/closing rocker handle 301 and a cord 302 arranged in the inner cavity of the umbrella column, one end of the cord 302 is fixedly connected to the opening/closing rocker handle 301, the other end of the cord extends to the upper end of the umbrella column 1, passes through the pull rod 204 and the connecting rod 203 in sequence, and is connected to the lower umbrella disk 202, and the cord 302 is driven by the opening/closing rocker handle 301.

[0019] The lower umbrella disk 202 includes a short rib 2021 and a runner 2022, the upper umbrella disk 201 includes a long rib 2011 and a notch 2012, the connecting rod 203 and the long rib 2011 are respectively hinged on the notch 2012, one end of the short rib 2021 is hinged on the long rib 2011, and the other end of the short rib is hinged on the runner 2022. A tube plug 2014 is arranged at the end of the long rib 2011, and the end of the long rib 2011 is sealed by the tube plug 2014, so as to protect the internal structure of the umbrella disk assembly 2 and improve the appearance of the Roman umbrella. The lower end of the notch 2012 is provided with an upper section 2013, the top of the runner 2022 is provided with a connecting end 2023, and the upper section 2013 is snap-fitted with the connecting end 2023 when the um-

brella is opened.

[0020] The umbrella column 1, the pull rod 204, the connecting rod 203, and the notch 2012 are respectively provided with a guide wheel 303, the guide wheels 303 are arranged at the connections of the umbrella column 1, the pull rod 204, the connecting rod 203, and the notch 2012, transmission connection of the cord 302 is achieved through the guide wheels 303, and the end of the cord 302 is fixedly connected with the connecting end 2023. Specifically, the cord 302 extends upward first, and is changed in direction by the guide wheel 303, so that the cord 302 passes through the umbrella column and enters the pull rod 204. The guide wheels are respectively arranged in the inner cavities at both ends of the pull rod 204, and the cord 302 is arranged on the guide wheels 303, then penetrates from the lower end of the pull rod 204 into the connecting rod 203, enters the notch 2012, and then is changed in direction by the guide wheel 303, so that the cord 302 is downward, and is fixedly connected with the connecting end 2023 of the runner 2022.

[0021] The umbrella opening assembly 3 further includes a winder 303 on which the cord 302 is wound. The winder 303 is fixedly connected with the opening/closing rocker handle 301, and the winder 303 can be rotated by rotating the opening/closing rocker handle 301.

[0022] The inner cavity of the sliding block 101 is provided with pulleys 102, the pulleys 102 are arranged on both sides of the umbrella column 1, the outer side of the sliding block 101 is provided with a locking handle 103, and the locking handle 103 is screwed on the sliding block 101. By rotating the locking handle 103, a screw rod of the locking handle 103 is tight against the umbrella column 1 or is away from the umbrella column 1, so that the sliding block 101 moves up and down along the umbrella column 1 to adjust the elevation angle of the canopy.

[0023] A rotating base 4 is arranged at the bottom of the umbrella column 1, the rotating base 4 is sleeved with the umbrella column 1, the rotating base 4 includes a rotary tray at the bottom and a fixing tube 401, snap-fit holes 402 are uniformly distributed in an annular form on the outer wall of the fixing tube 401, the umbrella column 1 is provided with a pin 105, and the pin 105 fits the snap-fit holes 402 to achieve rotation of the Roman umbrella canopy. A rotating handle 106 is also arranged on the umbrella column 1, and the umbrella column 1 is rotated by pulling the rotating handle 106 to rotate the Roman umbrella canopy.

[0024] A snap ring 1051 is arranged at the top of the pin 105, a spring 1052 is arranged on the pin 105, and the position of the spring is limited between the snap ring and the inner wall of the umbrella column 1. The pin 105 is pulled to adjust the shielding position of the canopy by the rotating handle 106, and the pin 105 is released after the canopy is rotated to an appropriate position. The pin moves forward toward the fixing tube 401 when the spring returns until the pin is inserted into the snap-fit hole 402, so that the umbrella column 1 and the fixing tube 401 are

fixedly connected.

[0025] The umbrella is opened by the rocker handle, the canopy can be tilted by rotating, sliding, and fixing the sliding block, and the canopy can be rotated 360 degrees by positioning the pin at the lower end of the column. By the rocker handle, the umbrella is opened more easily. In addition, the Roman umbrella has a simple structure, the cord is connected to the opening/closing rocker handle, and the opening/closing rocker handle does not move up with the opening of the canopy. The requirement for the height of a person who opens the umbrella is lowered, and the practicality is improved.

Claims

1. A Roman umbrella with an adjustable opening/closing angle through a rocker handle, comprising an umbrella column (1) and an umbrella disk assembly (2), wherein the umbrella disk assembly (2) comprises an upper umbrella disk (201) and a lower umbrella disk (202), the umbrella column (1) is sleeved with a sliding block (101), the upper umbrella disk (201) is provided with a connecting rod (203) and a pull rod (204), the end of the connecting rod (203) is hinged on the sliding block (101), one end of the pull rod (204) is hinged on the top of the umbrella column (1), the other end of the pull rod is hinged on the connecting rod (203), the umbrella column (1) is provided with an umbrella opening assembly (3), the umbrella opening assembly (3) comprises an opening/closing rocker handle (301) and a cord (302) arranged in the inner cavity of the umbrella column, one end of the cord (302) is fixedly connected to the opening/closing rocker handle (301), the other end of the cord extends to the upper end of the umbrella column (1), passes through the pull rod (204) and the connecting rod (203) in sequence, and is connected to the lower umbrella disk (202), and the cord (302) is driven by the opening/closing rocker handle (301).
2. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 1, wherein the lower umbrella disk (202) comprises a short rib (2021) and a runner (2022), the upper umbrella disk (201) comprises a long rib (2011) and a notch (2012), the connecting rod (203) and the long rib (2011) are respectively hinged on the notch (2012), one end of the short rib (2021) is hinged on the long rib (2011), and the other end of the short rib is hinged on the runner (2022).
3. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 2, wherein the lower end of the notch (2012) is provided with an upper section (2013), the top of the runner (2022) is provided with a connecting end (2023), and the upper section (2013) is snap-fitted with the connecting end (2023) when the umbrella is opened.
4. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 3, wherein the umbrella column (1), the pull rod (204), the connecting rod (203), and the notch (2012) are respectively provided with a guide wheel (303), the guide wheels (303) are arranged at the connections of the umbrella column (1), the pull rod (204), the connecting rod (203), and the notch (2012), transmission connection of the cord (302) is achieved through the guide wheels (303), and the end of the cord (302) is fixedly connected with the connecting end (2023).
5. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 1, wherein the inner cavity of the sliding block (101) is provided with pulleys (102), the pulleys (102) are arranged on both sides of the umbrella column (1), the outer side of the sliding block (101) is provided with a locking handle (103), and the locking handle (103) is screwed on the sliding block (101).
6. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 1, wherein a fixing block (104) is arranged on the upper side wall of the umbrella column (1), and the pull rod (204) is hinged on the fixing block (104).
7. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 1, wherein a rotating base (4) is arranged at the bottom of the umbrella column (1), the rotating base (4) is sleeved with the umbrella column (1), the rotating base (4) comprises a rotary tray at the bottom and a fixing tube (401), snap-fit holes (402) are uniformly distributed in an annular form on the outer wall of the fixing tube (401), the umbrella column (1) is provided with a pin (105), and the pin (105) fits the snap-fit holes (402) to achieve rotation of the Roman umbrella canopy.
8. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 7, wherein a rotating handle (106) is also arranged on the umbrella column (1), and the umbrella column (1) is rotated by pulling the rotating handle (106) to rotate the Roman umbrella canopy.
9. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 7, wherein a snap ring is arranged at the top of the pin (105), a spring is arranged on the pin (105), and the position of the spring is limited between the

snap ring and the inner wall of the umbrella column (1).

10. The Roman umbrella with an adjustable opening/closing angle through a rocker handle according to claim 2, wherein a tube plug (2014) is arranged at the end of the long rib (2011).

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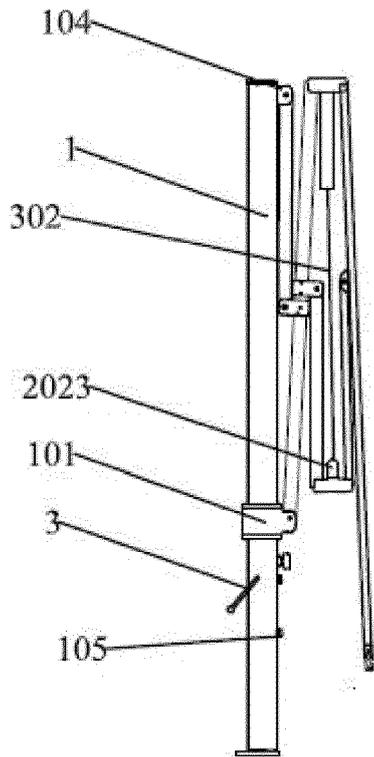


FIG. 1

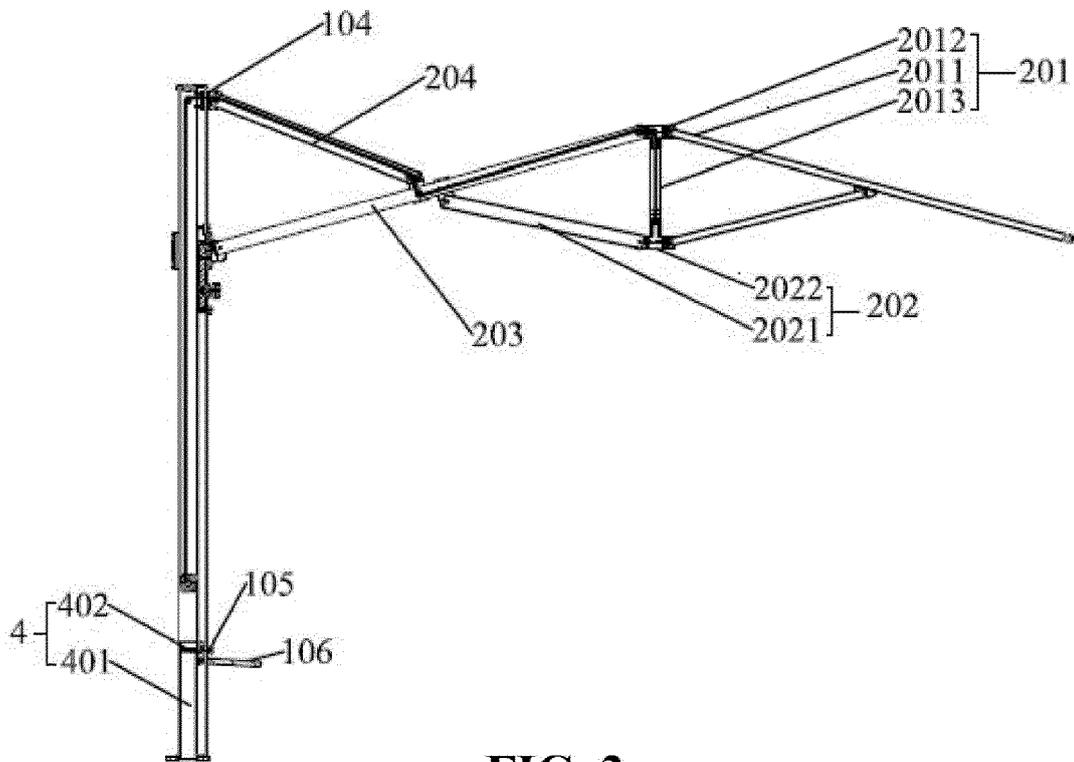


FIG. 2

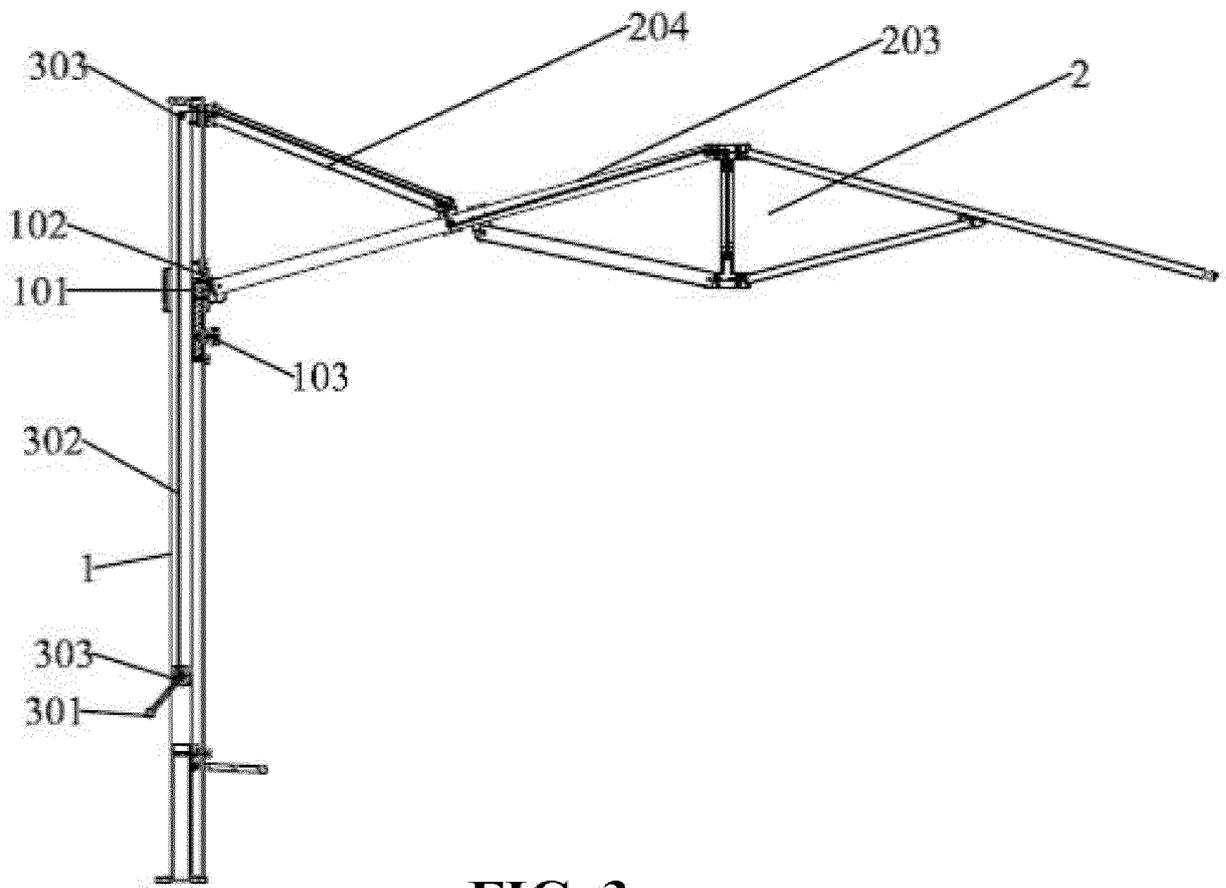


FIG. 3

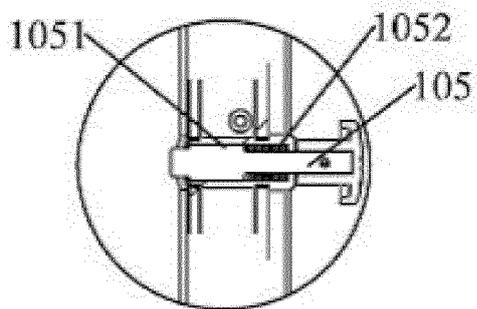


FIG. 4



EUROPEAN SEARCH REPORT

Application Number

EP 22 21 7026

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DOCUMENTS CONSIDERED TO BE RELEVANT

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	BE 1 028 092 B1 (ZHEJIANG WEIGE ARTS&CRAFTS CO LTD [CN]) 17 September 2021 (2021-09-17) * page 5, line 5 - page 7, line 17; figures *	1-10	INV. A45B23/00 A45B25/06 A45B25/14 A45B25/08
X	US 2010/024856 A1 (LI WANDA YING [US]) 4 February 2010 (2010-02-04) * paragraph [0036] - paragraph [0044]; figures *	1	
A	US 2011/297197 A1 (KUCINSKI EUGENE [US]) 8 December 2011 (2011-12-08) * paragraph [0022]; figures *	7-9	
A	US 8 807 513 B2 (VOLIN DEE [US]) 19 August 2014 (2014-08-19) * figure 4B *	8	
			TECHNICAL FIELDS SEARCHED (IPC)
			A45B E04H

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The present search report has been drawn up for all claims

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Place of search The Hague	Date of completion of the search 17 May 2023	Examiner van de Beek-Duijker
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**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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17-05-2023

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
BE 1028092	B1	17-09-2021	NONE
US 2010024856	A1	04-02-2010	NONE
US 2011297197	A1	08-12-2011	NONE
US 8807513	B2	19-08-2014	NONE

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